REMARKS

Favorable reconsideration of this application in light of the following discussion is respectfully requested.

Claims 1-20 are presently pending in the present application. Claims 1, 6, 12, 15, and 16 have been amended and claim 20 has been added by way of the present Amendment. No new matter is introduced by this amendment.

The Office Action dated October 10, 2007, objected to claim 12 for a minor informality; rejected claims 16-19 under 35 U.S.C. §112, second paragraph, as being indefinite; rejected claims 1-10, 14, and 15 under 35 U.S.C. §102(e) as being anticipated by *Owen et al.* (U.S. Patent No. 7,235,878, hereinafter referred to as "the '878 patent"); and rejected claims 11-13 under 35 U.S.C. §103(a) as being unpatentable over the '878 patent in view of *Owen et al.* (U.S. Pub. No. 2005/0218468, hereinafter referred to as "the '468 publication").

Regarding the claim objection, claim 12 has been amended to delete the second occurrence of the phrase "coated on." Accordingly, Applicants respectfully request the withdrawal of the objection to claim 12.

Regarding the indefiniteness rejection, claim 16 has been amended to change the phrase "the bended manner" to "a bent manner" in order to provide antecedent basis for the phrase and improve grammar. Accordingly, Applicants respectfully request the withdrawal of the indefiniteness rejection of claims 16-19.

Regarding the art rejections, the Office Action rejects each of independent claims 1, 6, and 15 as being anticipated by the '878 patent. Applicants note that a claim is anticipated only if each and every element set forth in the claim is found, either expressly or inherently described,

in a single prior art reference. As will be demonstrated below, the '878 patent clearly does not meet each and every limitation of amended independent claims 1, 6, and 15.

Independent claim 1 recites "[a] light emitting device comprising: a light emitting element; **a light conversion member including a phosphor material** that is capable of absorbing light emitted from said light emitting element at least partially and emitting light in different wavelength thereby generating heat; and **a heat dissipation member** … **so as to dissipate heat generated by light conversion of the light conversion member**." Independent claim 6 recites "[a] light emitting device comprising: a light emitting element; **a light conversion member including a phosphor material** that is capable of absorbing light emitted from the light emitting element at least partially and emitting light in different wavelength; and **a heat dissipation member to dissipate heat generated by light conversion of the light conversion member**, wherein said heat dissipation member having a flow path of a refrigerant includes a first heat dissipation member that has a first flow path … and a second heat dissipation member that has a second flow path …." The '878 patent fails to disclose all of the above features of independent claims 1 and 6.

The Office Action cites LEDs (88) in Figure 11 of the '878 patent for the teaching of the light emitting element of claims 1 and 6. With regard to claim 1, the Office Action cites window (94) of the '878 patent for the teaching of both the light conversion member and the heat dissipation member. And, with regard to claim 6, the Office Action cites window (94) of the '878 patent for the teaching of the light conversion member, flow divider (104) for the teaching of the first heat dissipation member, and window (94) for the teaching of the second heat dissipation member.

As noted above, the Office Action cites window (94) for the teaching of both a light conversion member and a heat dissipation member. Applicants respectfully traverse this assertion. In column 8, lines 42-61, the '878 patent describes window (94), for example, by indicating that window (94) is part of a cover (92) used to sealingly enclose substrate (86), and that window (94) "may incorporate an array of (e.g., diffractive and/or reflective) optics, so as to collect and collimate light emitted from the LED for application at a work surface (not shown)." The '878 patent indicates in column 3, lines 31-36, that "light from a semiconductor device is directed through a window with optics that collect, condense, and/or collimate the light so as to provide additional optical output. Such optics preferably include an array of micro-lenses that are integrated into such window. Typically, such window provides for containment of the coolant."

The '878 patent does not disclose that window (94) is **a light conversion member**, as recited in claims 1 and 6. Additionally, the '878 patent does not disclose that window (94) is a light conversion member **including a phosphor material**, as recited in claims 1 and 6. Also, the '878 patent does not disclose that window (94) is a light conversion member including a phosphor material **that is capable of absorbing light emitted from said light emitting element at least partially and emitting light in different wavelengths**, as recited in claims 1 and 6. No such disclosures are present in the '878 patent. The '878 patent merely describes window (94) that can include optics.

Furthermore, the '878 patent does not disclose or suggest that window (94) is a heat dissipation member, nor does it disclose whether the window (94) has the structural characteristics to act as a heat dissipation member. Also, the '878 patent does not disclose that window (94) is a heat dissipation member that can **dissipate heat generated by light**

conversion of the light conversion member. Rather, the '878 patent relies upon the use of coolant flowing through the device to transfer heat. Also, the '878 patent does not concern itself with the cooling of a light conversion member (or even with the cooling of window (94)), but rather merely concerns itself with the cooling of the LEDs. By contrast, claims 1 and 6 each recite a heat dissipation member configured to **dissipate heat generated by light conversion of a light conversion member**. As noted in the specification of the present application, the inventors of the present invention determined that is advantageous to suppress self-heat generation of phosphor and to prevent deterioration of a light conversion member, and to improve the luminous efficiency of phosphor to provide a high power light emitting device. (See, e.g., paragraph [0009].) The '878 patent does not contemplate such issues.

The '878 patent clearly fails to disclose all of the limitations recited in independent claims 1 and 6. Accordingly, Applicants respectfully request the withdrawal of the anticipation rejections of independent claims 1 and 6. Thus, claims 1 and 6 are believed to be in condition for allowance, and the claims that depend from claims 1 and 6 are believed to be in condition for allowance for at least the reasons advanced for their respective independent claim.

Independent claim 15 recites "[a] light emitting device comprising: **a heat dissipation member to dissipate heat generated by light conversion of a light conversion member**, the heat dissipation member being formed of two plate-shaped members that form a flow path for flowing cooling fluid between them; and a plurality of light emitting elements that are mounted to be two-dimensionally arranged on a main surface of the heat dissipation member, wherein **a plurality of protruding portions are formed on a surface of said plate-shaped member, the surface on which the plurality of protruding members are formed being inside said flow path**, and at least some of said plurality of protruding portions are formed such that their centers

are located between said light emitting elements and a substantially central part of said light emitting element." The '878 patent fails to disclose all of the above features of independent claim 15.

The Office Action cites substrate (50) and window (52) in Figure 5 of the '878 patent for the teaching of the heat dissipation member formed of two plate-shaped members that form a flow path of claim 15. The Office Action further cites optics/micro-lenses (54) of the '878 patent for the teaching of the plurality of protruding portions of claim 15.

Applicants respectfully traverse the assertion that substrate (50) and/or window (52) anticipate the heat dissipation member recited in claim 15.

Firstly, Applicants note that substrate (50) is the substrate on which the LEDs are mounted, and that the '878 patent does not disclose that the substrate (50) is **a heat dissipation member to dissipate heat generated by light conversion of a light conversion member**. Furthermore, similar to the discussion above with respect to window (94), the '878 patent does not disclose or suggest that window (52) is a heat dissipation member, nor does it disclose whether the window (52) has the structural characteristics to act as a heat dissipation member. Also, the '878 patent does not disclose that window (52) is a heat dissipation member that can **dissipate heat generated by light conversion of a light conversion member**.

Secondly, Applicants note that claim 15 recites **a plurality of protruding portions are formed on a surface of said plate-shaped member, the surface on which the plurality of protruding members are formed being inside said flow path**. Page 6 of the Office Action states that "[t]he text discloses that the protrusions are integrated into member (52), which includes protrusions formed on the surface of member (52) inside the flow path" citing to Figure 5 and column 6, line 62, through column 7, line 14, of the '878 patent. These portions of the

'878 patent describe and depict **optics/micro-lenses (54)**, which are formed on a surface of window (52) that is **outside of a flow path**, as is evident from a review of Figure 5.

The '878 patent clearly fails to disclose all of the limitations recited in independent claim 15. Accordingly, Applicants respectfully request the withdrawal of the anticipation rejection of independent claim 15. Thus, claim 15 is believed to be in condition for allowance, and the claims that depend from claim 15 are believed to be in condition for allowance for at least the reasons advanced for independent claim 15.

Claim 20 has been added, and is believed to be in condition for allowance as it recites features that are not disclosed in the applied reference. For example, independent claim 20 recites "[a] light emitting device comprising: a light emitting element; a light conversion member including a phosphor material that is capable of absorbing light emitted from said light emitting element at least partially and emitting light in different wavelength; and a heat dissipation member that is located … to dissipate heat generated by light conversion of the light conversion member, wherein said heat dissipation member defines a flow path of a refrigerant, the flow path being separated from said light emitting element." (See, e.g., Figures 1-3, 8, 9, 11, and 13, and paragraph [0036] of the present application for support.) The '878 patent does not disclose "a flow path of a refrigerant … being separated from said light emitting element." To the contrary, the '878 patent is intending to cool the LEDs by direct contact with a cooling fluid.

Therefore, the present application, as amended, overcomes the rejections of record and is in condition for allowance. Favorable consideration is respectfully requested. If any unresolved issues remain, it is respectfully requested that the Examiner telephone the

undersigned attorney at (703) 519-9957 so that such issues may be resolved as expeditiously as possible.

Respectfully Submitted,

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